

DESIGN AND BUILDING OF AN AUTOMATIC CONTROL SYSTEM ON A CLOTHES-DRYING CANOPY ROOF USING AN ESP8266 NODEMCU BASED ON THE INTERNET OF THINGS (IOT) AND THE BLYNK APPLICATION WITH AUGMENTED REALITY IMPLEMENTATION FOR MONITORING

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ABSTRACT

Some people still carry out the drying process outside the house in direct sunlight. However, in uncertain weather conditions, the process of drying clothes will be very difficult because the clothes have to be dried and lifted repeatedly. Therefore, the automatic control system on the canopy roof where clothes can be dried which can be opened and closed is very effective in dealing with the problem of drying outside the home. This system will utilize Internet of Things (IoT) technology because it allows the system to connect to the internet and carry out monitoring remotely, which will make it easier for users to carry out the monitoring process. This system is designed with NodeMCU ESP8266 as the one that processes and sends data from sensors to web blynk via the internet network, light dependent resistor (LDR) sensors as sunlight detectors, rain sensors as rainwater detectors, DHT11 sensors as humidity detectors, DC motors as the driving force. Web Blynk as data storage, and the AR application as an interface for monitoring data taken from web Blynk via the internet network. So, the roof will open if the bright light is below 500 and the humidity is below 75 or above 75 but no rain 1, but will be closed if the bright light is below 500 and the humidity is below 75 or above 75 but it is raining 0 and if the light is dark the value is above 500. The reading results for the LDR sensor show an average value of 24.43 on the first day and 62, while for the humidity sensor it shows an average value of 59.3 on the first day and 67.3 on the second day.

Keywords: *Clothesline, IoT, NodeMCU ESP8266, LDR Sensor, DHT11 Sensor, Blynk, AR*